

In-service Teachers' Perceptions about the Impact of the Computer Literacy Skills Course in Primary Schools in Botswana

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Theme: Skills Development

BACKGROUND TO THE PROBLEM

In 1999, the diploma in primary education in-service programme was initiated to upgrade academic and professional qualifications of primary school teachers who hold the Primary Teachers' Certificate. The main delivery mode on this programme is printed materials supported by face to face contact sessions during school holidays and audio cassette tapes. All distance learners must take a computer course to enable them for efficient running of schools. However not all primary schools have computers to support computer literacy classes. Secondly, emerging technologies such as the internet and mobile phones have not been exploited in this programme because at its conception, such media were not accessible to many people particularly in the rural areas. Over the time however there are calls to introduce email contact and mobile phone instead of relying only on print and audio tapes (Sikwibela and Mungoo, 2009). But not all primary schools have computers and internet connectivity. If internet facilities were available in all primary schools, distance learners would be able to search the internet for educational resources, receive updates to the modules, submit their assignments, receive online tutorial assistance, receive feedback on their assignments and make enquiries to administration about their progress (Wright, 2008). It is necessary to understand the effects of access to computers on distance learners' learning progress, acquisition of computer literacy skills and programme completion. In this regard the study set out to answer the following questions:

- (a) What are distance learners' perceptions about the acquisition of computer literacy skills, on the diploma in primary education of the University of Botswana?
- (b) What are the strengths and weaknesses in the implementation of the computer literacy course?
- (c) How do tutors and stakeholders perceive their roles and responsibilities in the implementation of the computer literacy course?
- (d) What barriers and opportunities exist for the improvement of the implementation of computer literacy course?

LITERATURE REVIEW

The Botswana government underscores the ICTs potential in teaching and learning, by encouraging curriculum developers to include ICT skills in the school curriculum so that there can be a bottom up skills development in the acquisition of ICT skills. To support these initiatives, the government has resourced education centres for teachers to use when they go for in-service training (INSET). However, there is a serious shortage of ICT facilities, particularly the internet in the school environment (Boitshwarelo, (2009:10). This shortage could be due to government policy guidelines that require the ministry of education to provide ICT infrastructure at centralised places such as the education centre for use by teachers during in-service activities. Given the irregular access to the ICT facilities in the education centres, and in schools, it is therefore difficult to roll out an ICT training strategy using this approach, in Botswana. There is need for a deliberate government policy that supports teachers acquisition of ICT skills, capacity building and the existence of an ICT-supported learning environment (Boitshwarelo, 2009: 13).

Limited access to ICT infrastructure, lack of adequate ICT skills, time constraints in the workplace due to competing teaching workload, all interfere with the application and use of ICTs. These sentiments are voiced by Mead-Richardson (2009) in her paper examining the

application of ICTs for training lecturers in colleges of vocational and technical education so that they can offer some of the technical courses through the distance delivery mode. In his study to establish Relative levels of eLearning readiness, applications and trainee requirements in Botswana's Private Sector, Nleya (2009:9) found that, *'there is low confidence in the use of computers in the areas such as finding documents, using folders to organise emails, use of multiple documents, use of graphics, Photoshop, electronic discussion, searching on the web, discussion lists, chat, video/computer-conferencing, smart classrooms, updating training materials, and the use of computer labs for computer based training'*. From this study it can be argued that although private sector employees in large companies in Botswana have access to computers, their employees are at the point of initial awareness according to diffusion of innovations process thus indicating very low levels of eLearning application in the private sector. This is in spite of the fact that 70% of the companies reported that they encourage their employees to acquire computer literacy skills. This low competency skills in eLearning can be attributed to lack of eLearning action plans in Botswana and other developing countries. Such plans are necessary to inform the establishment of partnerships between the public and the private sector in order to encourage technology transfer and improvement of entrepreneurial skills so as to achieve systemic change (Nleya 2009:11).

Lack of policy guidelines in the application of ICTs perpetuates the disconnect between physical access to computers and on- the - ground connectivity thus limiting the use of technology as a resource for lifelong learning and socio-economic development in general. As a result, there is too little if any systematic learning offered through ICTs. In order to create a more equitable global society that is connected and is learning and communicating regularly, certain barriers to the access to ICT technologies require immediate attention by leadership in Africa. Except in a few major urban cities, connectivity to ICTs remains one of the major barriers to accesses to ICT for learning purposes. Lack of technology in Africa has meant that performing various administrative activities such as providing information on course prerequisites, grading criteria and tips on how to study are done physically by bringing students together in a study centre at very high costs borne mostly by the learners. Providing these services through ICTs would reduce time wasted and costs incurred by distance learners when they go to designated but geographically distant study centres to register or access learning materials for their courses in various academic programmes.

However, the Botswana National ICT Policy, *Maitlamo*, (2005) undertakes to provide public radio and TV broadcasts including community radio; provide all Batswana with easy and affordable access to the internet at home and through Community Access Centres and via mobile internet units; and train communities in the use of ICTs to enable them to participate in Micro, Small and Medium, business enterprises (MSMEs) by 2016. This ICT policy also underpins the need to provide easy access to valuable information on health, jobs, and education; increase the number of computers at home; and increase ICT related education to children, the youth and adults by connecting schools and libraries with ICT and reach rural communities by providing internet access centres and training in rural villages. Although there is a modern telecommunications network infrastructure around the main transportation corridors circling the country, to support e-Readiness and e-Potential in Botswana, smaller and remote communities who stand to benefit from lifelong learning are not well served, as yet.

RESEARCH METHODOLOGY

Focus group interviews with distance learners and group interviews with tutors were conducted between September and November, 2009, at colleges of education. The third focus group coincided with the December 2009 residential session when some of the learners with incomplete results came to write special and supplementary examinations in subjects such as the computer skills literacy course. After explaining to them the purpose of the study, they agreed to the interview despite time constraints as they needed time to revise for the examination papers they were re-sitting. I found this particular interview particularly useful to my study as distance learners with incomplete results expressed their views and disappointments freely saying how painful it was for them to keep repeating subjects such as computer skills due to lack of access to computers. Responses of this nature were very useful to the study as I was able to refocus my questions for tutors, programme managers and college management to find out how record keeping affected distance learners' progress and programme completion. All interviews were tape recorded with the permission of participants and pseudonyms used to ensure their anonymity.

DATA ANALYSIS

To substantiate my assertions in data analysis, I quoted substantively from participants' responses for evidence, knowledge and their interpretations of the effectiveness of the computer skills course in teaching and learning on the DPE programme. Hall and Hall (2004) advise that in analysing qualitative data, the researcher needs to illustrate the analysis with direct quotations from interviewees by using ideas, concepts and words, emerging from the data as evidence of the findings rather than relying only on the researcher's

interpretation of data. As such, I based my interpretations on quotations from data and from literature to confirm or show dissonance among the participants on the issues that were raised in the research questions. This approach helped me to interrogate my own perceptions and interpretations of the impact of the computer skills course against those of the participants.

Criteria for Determining Learning Resources

Having students' prior knowledge and proficiency is the basis of any education endeavour. In order to design an appropriate and effective programme of study, (Melton, 2002). Knowing distance learners' expectations from the proposed programme of study is critical at the planning stage because satisfying learners' intrinsic and extrinsic needs will have an effect on their motivation and persistence to continue with the programme of study. As noted by Granger and Benke (1998:130), a distance education programme must define the programme goals, the learning skills to be imparted, the learning context and the expectations of potential learners, including the teaching and learning strategies to be applied. It is through such needs assessment that the required learning resources are determined and availed. The Computer skills course is taken by all primary school teachers as a basis for the introduction of computer literacy skills in primary schools. Learners use printed materials supported by tutorials that are held at colleges of education, where subject expertise, and learning resources such as computer and science laboratories, library and hostels for accommodation are situated..

To facilitate learning, Simonson et. al. (2006) stress the need for programme providers to ensure the availability of required learning resources such as computers, science laboratories, library and facilitators. Distance learners had divergent views about the availability and access to computers as one learner remarked: *'There was access to computers. We used laboratories and we were even taken to the music room in level one. It depended on tutors' initiative because ,my tutors took us to the computer laboratories.* In other cases, lack of access to computers presented a negative experience to the majority of distance learners who ended up covering only the theoretical part of the content, as (emotionally) expressed by another distance learner: *'We were just told there are no computers in the course. The computers were for conventional students who are training at this college. We just finished the course without using the computers.'* These findings demonstrate lack of proper planning for required learning resources, as summed up by one learner: *'Practical work requires accessibility to computers. If lessons in practical subjects are offered, there should not be a problem because learners should be given access to computers and other laboratories.'* When asked to elaborate on how they passed the Communications and Study Skills Module 4: Computers, without having done the practical component, one learner remarked: *'We did the theoretical part!'* (putting her hands up to express helplessness). *'We studied the parts by numbering them! The hardware! The types of computers, CPU (referring to the Central Processing Unit of the computer), 'this one is a screen, this one is a mouse, this one is the font that can create the size of the letter, or reduce it. Now we were left with the practical part where we would buy the computers for ourselves and practice it more at home with our little ones to help us.'*

These findings reveal the extent to which distance learners were left to fend for themselves in order to acquire computer literacy skills in a technological environment where computers are not affordable to majority of the working force. The time allocated for the computer lesson for a large number of students also limited distance learners' access to computers as one learner observed. *'Sometimes, someone would take us there for ... two hours. You will move from one person to another, but most of us didn't know how to use a computer, so you stand there for twenty minutes with one person trying to show you do this... It was nothing. It didn't help us at all!* This finding indicates lack of processes and procedures to inform criteria for access to learning resources at colleges of education.

At the end of the computer course, many of the distance learners did not feel that they acquired computer literacy skills which was the main objective of the computer course, as one learner observed. *'...you don't have computers at school, some of us don't know how to use a computer, so to get information becomes a problem. Or you can go to the internet café, but because of this phobia that we have, ...when I get there, I can't say, "please I want information on this and that", for fear that the young person helping you might say, "this old man is wasting my time". He doesn't know how to use a computer!'* This finding was triangulated with tutors views who said that distance learners demonstrate fear and anxiety when taken to a computer lab for the first time. To allay these fears, one of the tutors stated that they have to introduce the computer course to distance learners by telling them about role models of their age who they know who are computer literate so that distance learners who are older adults compared to pre-service students can embrace computer technology without fear. The other problem expressed by learners is that not all lecturers were computer literate to conduct tutorials in computer literacy skills as narrated by one learner. *'...and even here, they were relying on only one lecturer to help us, because not all lecturers could teach computers.'* One major lesson from this experience is that, teaching practical subjects via the distance mode requires additional time to enable the learners to interact with the learning resources. Facilities such as the National Library, the Community Centres could have been explored as possible repositories of learning materials for use by distance learners particularly in remote rural areas. In this regard, the experience from the Botswana College of Distance and Open Learning

(BOCODOL) is an instructive example in the provision of a decentralized learner support system where learning resources are located close to distance learners geographical locations.

Tutors' views about the computers skills course at a distance

According to tutors, lack of access to computers at the schools where these teachers taught to enhance practice and congestion on the timetable during the residential sessions contributed enormously to distance learners' inability to acquire computer literacy skills. *'Most of our distance learners, see the computer for the first time when they come to the colleges of education. Sometimes... the computers will be down two weeks so that those tutoring computers don't have access to them.* It is not possible for over 100 students to access about 25 computers within a two hour lesson. his graphic description of capacity limitations at colleges of education explains why it was difficult to give distance learners hands on experience on the computers and other practical subjects. It also points to the need for proper planning and identification of the required learning resources at the programme planning and design stage.

CONCLUSION

This study has revealed more weaknesses than strengths about the implementation of the computer literacy course on the DPE programme. It also emerged that majority of distance learners were not able to interact with learning resources such as computers, science laboratories and libraries, due to logistical constraints. This weakness denied distance learners an opportunity to acquire the same practical experience such as computer literacy skills which is provided to conventions students. Although comparing the distance taught with the conventional programme was not one of the objectives of this study, there is need to review strategies of exposure to resources for the two groups of learners if the aim of the distance taught diploma is to upgrade in-service teachers' to the same level of competency as pre-service students. This is a viable topic for future research. Another barrier that affected the computer course was lack of decentralized access to computer facilities near distance learners homes and places of work. This would have been possible through shared use of resources that are available in junior and senior secondary schools, Education Centres and other government owned facilities such as Community Centres. The most significant barrier is the lack of policy governing the provision of distance education and access to resources at the national and institutional level. This may call for the creation of a regulatory council similar to the Distance Education Council in India that regulates the implementation of distance education in all tertiary education institutions.

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